

Claims

What is claimed is:

1. A system comprising:
 - a first node and a second node located in a single multiprocessor system;
 - the first node comprising a first router and a first replicated service executing on a first operating system;
 - the second node comprising a second router and a second replicated service executing on a second operating system; and
 - a mesh interconnect connecting the first node to the second node using the first router and the second router.
2. The system of claim 1, further comprising:
 - a first cache operatively connected to a first node configured to indicate the presence of the first replicated service.
3. The system of claim 1, further comprising:
 - a second cache operatively connected to a second node configured to indicate the presence of the second replicated service.
4. The system of claim 1, wherein the first router comprises a lightweight communications protocol.
5. The system of claim 1, wherein the second router comprises a lightweight communications protocol.
6. The system of claim 1, wherein the mesh interconnect provides at least two connection paths from the first node to the second node.

7. The system of claim 1, wherein the first replicated service comprises a first application.
8. The system of claim 1, wherein the second replicated service comprises a second application.
9. The system of claim 1, wherein the first node is configured to search for the second replicated service if the first replicated service is unavailable.
10. The system of claim 9, wherein the first node is configured to search for the second replicated service using at least one selected from the group consisting of a broadcast message and a multicast message.
11. The system of claim 9, wherein the first router is configured to route data to a node executing the second replicated service.
12. The system of claim 1, wherein the second node is configured to search for the first replicated service if the second replicated service is unavailable.
13. The system of claim 11, wherein the second node is configured to search for the second replicated service using at least one selected from the group consisting of a broadcast message and a multicast message.
14. The system of claim 13, wherein the second router is configured to route data to a node executing the first replicated service.
15. The system of claim 1, wherein the first router and the second router implement a master-less routing policy.
16. A system, comprising:
 - a first subset and a second subset located in a single multiprocessor system;

the first subset comprising a first plurality of nodes and the second subset comprising a second plurality of nodes, wherein each of the first plurality of nodes and each of the second plurality of nodes comprises:

a router, and

a replicated service executing on an operating system;

a first mesh interconnect connecting the first subset to the second subset;

a second mesh interconnect connecting each node in the first plurality of nodes to every other node in the first plurality of nodes; and

a third mesh interconnect connecting each node in the second plurality of nodes to every other node in the second plurality of nodes.

17. The system of claim 16, wherein the each of the nodes in the first plurality of nodes executes a different operating system than every other nodes in the first plurality of nodes.
18. The system of claim 16, wherein the each of the nodes in the second plurality of nodes executes a different operating system than every other nodes in the second plurality of nodes.
19. The system of claim 16, wherein one of the first plurality of nodes is configured to initially search for the replicated service in only the first subset.
20. The system of claim 19, wherein the one of the first plurality of nodes is further configured to search the second subset for the replicated service if the replicated service is not found in the first subset.
21. The system of claim 19, wherein the one of the first plurality of nodes searches using at least one selected from the group consisting of a broadcast message and a multicast message.

22. The system of claim 16, wherein the first mesh interconnect provides at least two communication paths from the first subset to the second subset.
23. The system of claim 16, wherein the second mesh interconnect provides at least two communication paths from each node of the first plurality of nodes to the every other node in the first plurality of nodes.
24. The system of claim 16, wherein the third mesh interconnect provides at least two communication paths from each node of the second plurality of nodes to the every other node in the second plurality of nodes.
25. The system of claim 16, wherein the router implements a master-less routing policy.